

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of: **WINOKUR**

Serial No.: 10/585,587

Filed: July 10, 2006

For: REMOTE DATA MIRRORING SYSTEM

Group Art Unit: 2113

Examiner: Emerson C. Puente

RULE 132 DECLARATION OF DAVID VELLANTE

I, the undersigned, David Vellante, hereby declare as follows:

1. I have worked in the field of information technology (IT) for over 20 years. I am currently President and CEO of Barometrix, a CIO advisory firm that combines research, expertise and tools to advise clients on technology adoption. I am also a co-founder of the Wikibon project, a professional community solving technology and business problems through an open source sharing of free advisory knowledge. Previously I was Senior Vice President of International Data Corporation (IDC) and ran the company's largest division. I have spoken at international conferences for IT executives and investment professionals and have written and published numerous articles and papers in the industry trade press. Further details of my professional background are listed in my *curriculum vitae*, which is attached hereto as Exhibit A.

2. My company provides consulting services to Axxana (the assignee of this patent application), but I have no

financial interest in Axxana or in U.S. Patent Application 10/585,587 (to which I refer hereinafter simply as "the Application"). I initially formed the opinions expressed in this Declaration before I had any business relationship with Axxana.

3. I have read and familiarized myself with the Application and with the claims in the Application as they currently stand. Claims 1 and 24, in particular, recite the key features of the Axxana Phoenix product. This product is a disaster-resilient storage unit, which is deployed at the site of the primary storage device in a storage system. Phoenix temporarily stores data records during the process of copying stored data to a remote secondary storage device. If the primary storage device is damaged, the records stored by Phoenix can be used, together with the data in secondary storage device, to reconstruct all of the data stored previously by the primary storage device with zero or near zero data loss, regardless of how distant the secondary storage device is from the primary.

4. Before the Axxana product became available, synchronous replication was required in order to ensure zero or near zero data loss. In synchronous replication, each item of data in an I/O operation must be written successfully to both the primary and the secondary sites before data processing can continue. The longer the distance between the sites, the greater the time required to complete the write and send back the acknowledgment from the secondary site. This long delay in I/O response is unacceptable in many applications.

5. The alternative technology is asynchronous replication, which allows virtually unlimited distance between sites by buffering the data and writing to the remote site asynchronously. In a disaster, however, this buffer is lost, and with it up to 30 minutes of I/O data (depending on the distance between the primary and secondary sites). This sort of loss is not acceptable for many enterprises, such as financial organizations, for example, which may transfer millions of dollars in a transaction. It is increasingly unacceptable to organizations with highly-integrated sets of applications, in which any data loss means significant problems for IT and business recovery.

6. The need for secure storage backup was emphasized by the U.S. Securities and Exchange Commission in a Draft Interagency White Paper that was released in 2002. A copy of this document is attached hereto as Exhibit B. The White Paper discusses the need for disaster-proof backup and implies (last paragraph on page 12) that primary and backup sites should be very far apart - as much as 200-300 miles. The White Paper caused major concerns in the industry, since synchronous replication over such distances is too slow to be practical, as I have explained above, while asynchronous replication could not provide zero data loss.

7. The only technology capable of providing disaster recovery with near-zero data loss was three-node remote replication, which requires IT equipment in each of three nodes and high-speed Wide Area Network (WAN) communication between the sites. Solutions of this sort

are described, for example, in a paper published in 2004 by the META Group, which is attached hereto as Exhibit C. Three-node systems are available from EMC, Hitachi and IBM, usually for use with mainframe computers, but they are prohibitively expensive and have therefore gained limited market acceptance.

8. Until Axxana introduced the Phoenix product, the problem of achieving zero or near zero data loss with low I/O latency in a two-node system was thought to be unsolvable. The idea that information stored at the primary site could be used in reconstructing data following a severe disaster at the primary site was not even considered to the best of my knowledge. Alex Winokur (the inventor in the present Application) solved this "unsolvable" problem by coming to the surprising realization that a certain amount of data could be preserved at the primary site and used in post-disaster data recovery, as long as it is stored in a suitable enclosure that is practically disaster-proof. This invention, which is described in the Application and embodied in the Phoenix product, reconciles the seemingly contradictory demands of zero data loss and low latency. It thus answers the need that has been widely felt, at least since 2002, for a secure storage solution of this sort at reasonable cost.

9. As an expert in the IT market, I believe that Axxana technology will gain wide acceptance and enjoy substantial commercial success. A number of major storage system vendors, including EMC, have announced that they will collaborate with Axxana on integrating the

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Rule 132 Declaration of David Vellante, cont'd

Phoenix product into their systems. It is my opinion that the availability of Axxana technology will, in fact, increase the market potential for zero-data-loss, remote backup solutions by as much as 300-400%.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and conjecture are thought to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.



David Vellante, Citizen of USA

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November 5, 2009